

ABSTRACT OF THE DISCLOSURE

An environment and method for developing dataflow applications where a dataflow transformation is encapsulated into a dataflow graph expressed as a reusable map component using a host development language such as Java, and the dataflow graphs are linked together via ports. A scalar map component performs a specific data transformation and a composite map component is built from a number of other map components typically representing a family of data transformations. Map components have interface and implementation properties which assist in developing customized, hierarchical data transformation logic. The ports are polymorphic and can be specific, generic, or composite data types, to allow linking of map components which compile to generate a dataflow pattern. A map component may employ dynamic logic where internal sub-graphs or links are added or properties changed based on information received from the compiler, such as port types, design properties, or static data transformation.

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